

PATENT APPLICATION
DOCKET NO.: 1263-0013US

LISTING OF THE CLAIMS PER 37 C.F.R. §1.121

1. (Currently Amended) A memory compiler characterization method for determining parametric data associated with compilable memory instances, comprising the steps:

obtaining a first parametric dataset [for] associated with a first plurality of memory compilers, each of said memory compilers for compiling a first set of respective memory instances, each instance having a select number of physical rows and a select number of physical columns, wherein each memory instance is organized using a first MUX factor and further wherein a each data point in said first parametric dataset corresponds to a value with respect to a particular parameter characterized for a memory instance sampled from said first set of memory instances said respective memory instance, said data point comprising a value with respect to a particular parameter;

obtaining a second parametric dataset by characterizing said particular parameter for a second set of memory instances that are compiled by a second plurality of memory compilers, each of said second plurality of memory compilers for compiling a respective memory instance organized with a second MUX factor, wherein said second plurality of memory compilers are sampled from said first plurality of memory compilers such that each memory instance

PATENT APPLICATION
DOCKET NO.: 1263-0013US

compiled by said second plurality of memory compilers corresponds to a respective congruent memory instance of said first parametric dataset having identical numbers of physical rows and physical columns;

determining scale factors for a select number of parametric data points associated with respective congruent memory instances of said first and second parametric datasets;

obtaining an interpolated scale factor based on said scale factors; and

deriving a value of said particular parameter for an additional memory instance having said second MUX factor of second parametric dataset by applying said interpolated scale factor to a data point associated with a memory instance having said first MUX factor of said first parametric dataset, wherein said memory instance with said first MUX factor is congruent with respect to said additional memory instance with said second MUX factor of said second parametric dataset.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

2. (Original) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 1, wherein said particular parameter comprises a memory timing parameter.

3. (Original) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 2, wherein said memory timing parameter comprises memory access time.

4. (Original) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 2, wherein said memory timing parameter comprises memory cycle time.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

5. (Currently Amended) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 1, wherein said first MUX factor is selected from ~~the group consisting at least one of~~ a MUX-4 factor, a MUX-8 factor, a MUX-16 factor and a MUX-32 factor.

6. (Currently Amended) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 1, wherein said second MUX factor is selected from ~~the group consisting at least one of~~ a MUX-4 factor, a MUX-8 factor, a MUX-16 factor and a MUX-32 factor.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

7. (Currently Amended) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 1, wherein each memory instance of said first and second sets of memory instances ~~parametric datasets~~ comprises one of a read-only memory (ROM) circuit, a static random access memory (SRAM) circuit, a dynamic random access memory (DRAM) circuit, an electrically programmable ROM (EPROM) circuit, a flash memory circuit, an embedded memory circuit, and a stand-alone memory circuit.

Claims 8 - 13 (Canceled).

PATENT APPLICATION
DOCKET NO.: 1263-0013US

14. (Original) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 1, wherein said interpolated scale factor is obtained by interpolating four scale factors, each corresponding to a ratio of values of said particular parameter for a pair of congruent memory instances.

15. (Currently Amended) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 1, wherein said first and second parametric datasets are obtained step of obtaining said first parametric dataset and said step of obtaining said second parametric dataset are effectuated by characterization of said particular parameter via simulation.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

16. (Currently Amended) A memory compiler characterization method for determining parametric data associated with compilable memory instances, comprising ~~the steps:~~:

obtaining a first parametric dataset [for] associated with a first plurality of memory compilers representative of a first memory technology, ~~each~~ of said memory compilers for compiling a first set of respective memory instances, each instance having a select number of physical rows and a select number of physical columns and organized using a select MUX factor, wherein ~~each~~ a data point in said first parametric dataset corresponds to a value with respect to a particular parameter characterized for a memory instance sampled from said first set of memory instances ~~said respective memory instance, said data point comprising a value with respect to a particular parameter;~~

obtaining a second parametric dataset by characterizing said particular parameter for a second set of memory instances compiled by a second plurality of memory compilers that are representative of a second memory technology, each of said second plurality of memory compilers for compiling a respective memory instance organized with said select MUX factor, wherein said second plurality of memory compilers are sampled from said first plurality of memory compilers such that each memory instance compiled by said

PATENT APPLICATION
DOCKET NO.: 1263-0013US

second plurality of memory compilers corresponds to a respective congruent memory instance of said first parametric dataset having identical numbers of physical rows and physical columns;

determining scale factors for a select number of parametric data points associated with respective congruent memory instances of said first and second parametric datasets;

obtaining an interpolated scale factor based on said scale factors; and

deriving a value of said particular parameter for an additional memory instance of said second memory technology second parametric dataset by applying said interpolated scale factor to a data point associated with a memory instance of said first memory technology parametric dataset, wherein said memory instance of said first memory technology is congruent with respect to said additional memory instance of said second memory technology parametric dataset.

17. (Original) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 16, wherein said particular parameter comprises a memory timing parameter.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

18. (Original) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 17, wherein said memory timing parameter comprises memory access time.

19. (Original) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 17, wherein said memory timing parameter comprises memory cycle time.

20. (Currently Amended) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 16, wherein said select MUX factor is selected from ~~the group consisting at least one of~~ a MUX-4 factor, a MUX-8 factor, a MUX-16 factor and a MUX-32 factor.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

21. (Currently Amended) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 16, wherein each memory instance of said first and second sets of memory instances ~~parametric datasets~~ comprises one of a read-only memory (ROM) circuit, a static random access memory (SRAM) circuit, a dynamic random access memory (DRAM) circuit, an electrically programmable ROM (EPROM) circuit, a flash memory circuit, an embedded memory circuit, and a stand-alone memory circuit.

Claims 22 - 27 (Canceled).

28. (Original) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 16, wherein said interpolated scale factor is obtained by interpolating four scale factors, each corresponding to a ratio of values of said particular parameter for a pair of congruent memory instances.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

29. (Currently Amended) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 16, wherein said first and second parametric datasets are obtained ~~step of obtaining~~ said first parametric dataset and said step of obtaining said second parametric dataset are effectuated by characterization of said particular parameter via simulation.

30. (Currently Amended) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 16, wherein said first memory technology is selected from the group consisting at least one of 1.0μ technology, 0.8μ technology, 0.6μ technology and 0.2μ technology.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

31. (Currently Amended) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 16, wherein said second memory technology is selected from the group consisting at least one of 1.0μ technology, 0.8μ technology, 0.6μ technology and 0.2μ technology.

32. (Original) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 16, wherein said first and second memory technologies comprise design-rule-specific technologies.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

33. (Original) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 16, wherein said first and second memory technologies comprise foundry-specific technologies.

34. (Original) The memory compiler characterization method for determining parametric data associated with compilable memory instances as set forth in claim 16, wherein said first and second memory technologies comprise process-flow-specific technologies.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

35. (Currently Amended) A memory compiler characterization system, comprising:

means for characterizing a first plurality of memory compilers with respect to a particular parameter, said first plurality of memory compilers for compiling memory instances of a first type;

means for characterizing a second plurality of memory compilers with respect to said particular parameter, said second plurality of memory compilers for compiling memory instances of a second type, wherein said memory instances of second type comprise memory instances sparsely sampled from said memory instances of first type such that each sampled memory instance of second type corresponds to a respective congruent memory instance of first type having identical numbers of physical rows and physical columns;

means for determining scale factors between values of said particular parameter respectively associated with a pair sample of congruent memory instances of said first and second types;

an interpolator to obtain an interpolated scale factor based on said scale factors; and

means for obtaining a value of said particular parameter for an additional memory instance of second type by utilizing said interpolated scale factor in conjunction with a parametric value of

PATENT APPLICATION
DOCKET NO.: 1263-0013US

a congruent memory instance of first type which corresponds to said additional memory instance.

36. (Original) The memory compiler characterization system as set forth in claim 35, wherein said memory instances of first type comprise memory instances with a first MUX factor and said memory instances of second type comprise memory instances with a second MUX factor.

37. (Currently Amended) The memory compiler characterization system as set forth in claim 36, wherein said first MUX factor is selected from ~~the group consisting at least one~~ of a MUX-4 factor, a MUX-8 factor, a MUX-16 factor and a MUX-32 factor.

38. (Currently Amended) The memory compiler characterization system as set forth in claim 36, wherein said second MUX factor is selected from ~~the group consisting at least one~~ of a MUX-4 factor, a MUX-8 factor, a MUX-16 factor and a MUX-32 factor.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

39. (Original) The memory compiler characterization system as set forth in claim 35, wherein said memory instances of first type comprise memory instances associated with a first memory technology and said memory instances of second type comprise memory instances associated with a second memory technology.

40. (Currently Amended) The memory compiler characterization system as set forth in claim 39, wherein said first memory technology is selected from ~~the group consisting at least one of~~ 1.0 μ technology, 0.8 μ technology, 0.6 μ technology and 0.2 μ technology.

41. (Currently Amended) The memory compiler characterization system as set forth in claim 39, wherein said second memory technology is selected from ~~the group consisting at least one of~~ 1.0 μ technology, 0.8 μ technology, 0.6 μ technology and 0.2 μ technology.

PATENT APPLICATION
DOCKET NO.: 1263-0013US

42. (Original) The memory compiler characterization system as set forth in claim 39, wherein said first and second memory technologies comprise design-rule-specific technologies.

43. (Original) The memory compiler characterization system as set forth in claim 39, wherein said first and second memory technologies comprise process-flow-specific technologies.

44. (Original) The memory compiler characterization system as set forth in claim 39, wherein said first and second memory technologies comprise foundry-specific technologies.

45. (Original) The memory compiler characterization system as set forth in claim 35, wherein said memory instances comprise one of a DRAM circuit, an SRAM circuit, a ROM circuit, an EPROM circuit and a flash memory circuit.

Claims 46 - 49 (Canceled).